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(54) Title: NOVEL HEV ANTIGENIC PEPTIDE AND METHODS

(57) Abstract: A highly immunoreactive viral peptide, pE2, is disclosed which is derived form the carboxy-terminal end region of ORF2 region of the hepatitis E virus (HEV) genome. A unique feature of the novel pE2 peptide is that it possesses conformational antigenic determinants which are only exposed when monomers of the peptide associate with one another through non-covalent interactions to naturally form homodimers. The novel pE2 peptide is proven to be highly reactive with sera from patients having current or past infection with HEV which suggests that the homodimer may mimic certain structural features of the HEV capsid protein. Furthermore, the antigenic activity of the pE2 peptide is strictly conformational in nature and therefore, exhibits immunochemical reactivity only when the peptide exists in a dimeric form. Consequently, the antigenic activity is lost upon dissociation of the dimers, but the activity is restored when the monomers reassociate to form dimers. Moreover, diagnostic methods useful in detecting and diagnosing HEV infection, and the use of a vaccine composition effective in preventing hepatitis E virus infection in which the novel pE2 peptide is utilized are also disclosed.